Appl. No.: 10/016,510
Amdt. dated 04/10/2006
Reply to Official Action of October 11, 2005

REMARKS/ARGUMENTS

This Amendment is filed in response to the second non-final Official Action of October 11, 2005. In this regard, despite the first Official Action indicating that dependent Claims 3, 15, 16, 23 and 24 are allowable, the second Official Action now rejects those claims along with Claims 1, 2, 4-6, 9, 10, 13, 14, 19-22 and 24 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,185,765 to Walker. The second Official Action then rejects the remaining claims, namely Claims 7, 8, 11, 12, 17 and 18 under 35 U.S.C. § 103(a) as being unpatentable over the Walker patent in view of U.S. Patent No. 4,507,794 to Jones et al.

In response to the second Official Action, Applicant has amended independent Claim 1 to incorporate subject matter from dependent Claims 6 and 7, and has accordingly amended Claim 6, cancelled Claim 7 and amended the dependency of Claim 8. Similarly, Applicant has also amended independent Claims 10 and 14 to incorporate subject matter from dependent Claims 11 and 17, respectively, and accordingly cancelled Claims 11 and 17 and amended the dependency of Claims 12 and 18. In addition, Applicant has amended independent Claim 20 to incorporate subject matter from dependent Claim 21 (as well as that from dependent Claims 11 and 17), and cancelled dependent Claim 21. As explained below, Applicant respectfully submits that the claimed invention of the present application is patentably distinct from Walker and Jones, taken individually or in combination. In view of the remarks presented below, Applicant respectfully requests reconsideration and allowance of all of the pending claims of the present application.

The primary reference, Walker, discloses a high-speed phase shift key (PSK) coding communication system. As disclosed with reference to FIGS. 4A and 5A, respectively, the system includes a transmission circuit and a receiving circuit. The transmission circuit includes an encoder for encoding an input signal and providing encoded output to an integrator stage, which is capable of further processing the encoded output. The receiving circuit, in turn, includes a differentiator for differentiating the received signal to cancel a phase shift introduced in the signal by the integrator. The differentiated signal can then be provided to a decoder, which decodes the encoded signal from the transmitter.

As embodied in amended independent Claim 20, the claimed invention of the present application provides a digital communications system including a transmitter and a receiver. As

amended, the transmitter is capable of encoding at least one digital signal according to a predefined communications standard having zero content at a DC voltage level. The transmitter is then capable of integrating the encoded digital signal by converting the encoded digital signal into an integrated signal that is proportional to the time integral of the encoded digital signal. The transmitter is capable of transmitting the integrated signal. In turn, the receiver is capable of receiving the integrated signal, and differentiating the integrated signal into a representation of the encoded digital signal that is proportional to the rate of change of the at least one integrated signal. As further amended, the receiver is capable of decoding the representation of the encoded digital signal according to the predefined communications standard to obtain a representation of the digital signal.

In contrast to amended independent Claim 20, and as conceded in the Official Action (as to the rejection of Claims 7, 8, 11, 12, 17 and 18), Walker does not teach or suggest encoding or decoding a digital signal according to a predefined communications standard having zero content at a DC voltage level. Nonetheless, the Official Action alleges that the secondary reference, Jones, discloses this feature of the claimed invention, and that it would have been obvious to one skilled in the art to combine this teaching of Jones with Walker to disclose the claimed invention. As motivation, the Official Action alleges that such a modification would result in a reduction of bandwidth and radiated noise.

Applicant respectfully submits, however, that even if Jones does disclose a predefined communications standard having zero content at a DC voltage level (more particularly the Manchester encoding standard), Walker and Jones cannot properly be combined to teach or suggest the invention of amended independent Claim 20. As explained below, to so modify Walker would change the principle of operation of its disclosed system. And as stated in MPEP § 2143.01, "[a] proposed modification cannot change the principle of operation of a reference" to support a § 103 rejection.

As explained by Walker, a principal object of the disclosed system and method is to provide an improved binary data communication system that improves the Nyquist Factor of prior communication systems without a corresponding increase in the power requirement or loss of signal-to-noise ratio. Walker, col. 2, l. 65 – col. 3, l. 2. To accomplish that primary object,

then, Walker discloses what it refers to as an improved binary data encoding procedure and transmission system for modulating non-return to zero (NRZ) encoded data in accordance with a variable phase shift keying (VPSK) technique. *See id.* at FIG. 2 and accompanying description. Thus, the principle of operation of the Walker technique is to modulate NRZ encoded data to provide an improved binary encoding procedure and transmission system.

As is well known to those skilled in the art, NRZ is an alternative encoding standard to those standards characterized by zero content at a DC voltage level (e.g., Manchester, 4B5B, 5B6B, 8B10B etc.), as recited by amended independent Claim 20. Thus, modifying Walker as alleged in the Official Action would require replacing the NRZ encoded data of Walker with the Manchester encoded data of Jones. In this regard, because the system and method of Walker are explicitly configured for modulating NRZ encoded data, modifying Walker to modulate Manchester encoded data is tantamount to changing the basic form of input data upon which the Walker system was designed to operate, and would require a substantial reconstruction and redesign of the Walker system. *See* MPEP § 2143.01 (*citing In re Ratti*, 270 F.2d 810, 813 (CCPA 1959)). One skilled in the art would therefore not find it obvious to modify Walker to operate on Manchester encoded data of Jones as alleged by the Official Action. And because one skilled in the art would not find it obvious to modify Walker in this manner, Walker and Jones cannot properly be combined to teach or suggest the claimed invention of amended independent Claim 20.

For at least the reasons explained above, Applicant respectfully submits that amended independent Claim 20, and by dependency Claims 22-24, is patentably distinct from Walker and Jones, taken individually or in combination. Applicant also respectfully submits that amended independent Claims 1, 10 and 14 recite subject matter similar to that of amended independent Claim 20. In this regard, amended independent Claims 1 and 10 recite encoding, and amended independent Claim 14 recites decoding, according to a predefined communications standard that has zero content at a DC voltage level. As such, Applicant respectfully submits that the claimed invention of amended independent Claims 1, 10 and 14, and by dependency Claims 2-6, 8, 9, 12, 13, 15, 16, 18 and 19, is also patentably distinct from Walker and Jones, taken individually or in combination, for at least the same reasons given above with respect to amended independent

Claim 20. Applicant therefore respectfully submits that the rejections of Claims 1-24 as being anticipated by Walker, or unpatentable over Walker in view of Jones, are overcome.

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CONCLUSION

In view of the amendments to the claims, and the remarks presented above, Applicant respectfully submits that the present application is in condition for allowance. As such, the issuance of a Notice of Allowance is therefore respectfully requested. In order to expedite the examination of the present application, the Examiner is encouraged to contact Applicant's undersigned attorney in order to resolve any remaining issues.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

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CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that this paper is being facsimile transmitted to the US Patent and Trademark Office at Fax No. (703) 872-9306 on the date shown below.

Sarah B. Simmons — April 10, 2006
Sarah B. Simmons — Date